

USAWC STRATEGY RESEARCH PROJECT

**DETERMINING AN APPROPRIATE FORCE
SIZING PARADIGM FOR THE U.S. ARMY**

by

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The views expressed in this academic research paper are those of the author. This SRP is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

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ABSTRACT

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The U.S. Army is too small to meet the security needs of our National Security Strategy. Our soldiers, both active, reserve and national guard, are deployed around the globe doing our nation's bidding but are stretched to the breaking point. Does it take breaking the force to wake everyone up to the fact that we need more force structure and an increase in Army end-strength? Secretary Rumsfeld said in the Quadrennial Defense Review Report dated September 30, 2001, "this nation can afford to spend what is needed to deter the adversaries of tomorrow and to underpin our prosperity." This paper will posit answers to three questions that military force planners have been trying to answer for years.

Firstly, they must **determine how much is enough** to accomplish the missions required with minimal acceptable risk. Secondly, they must **determine where and how to posture the forces** to accomplish the missions. Thirdly, force planners have to **gain the support of congress** and the American people.

TABLE OF CONTENTS

| | |
|--------------------------------------------------------------------------|-----------|
| ABSTRACT..... | III |
| PREFACE..... | VII |
| LIST OF ILLUSTRATIONS | IX |
| LIST OF TABLES | XI |
| DETERMINING AN APPROPRIATE FORCE SIZING PARADIGM FOR THE U.S. ARMY | 1 |
| THE PEACE DIVIDEND | 2 |
| THE 1-4-2-1 STRATEGY | 5 |
| FORCE-PLANNING METHODOLOGY | 5 |
| ARMY CAPABILITIES | 6 |
| ARMY ANALYSIS | 7 |
| CONGRESSIONAL ANALYSIS | 9 |
| IMPORTANCE OF DEPLOYMENT/TRAINING CYCLES | 11 |
| THE NEW GEOPOLITICAL LANDSCAPE | 11 |
| RECOMMENDATIONS | 13 |
| HOW MUCH IS ENOUGH | 13 |
| WHERE AND HOW TO POSTURE THE FORCES | 14 |
| GAINING CONGRESSIONAL SUPPORT | 15 |
| CONCLUSION | 16 |
| ENDNOTES | 17 |
| BIBLIOGRAPHY | 19 |

PREFACE

The mission of the U.S. Army today is as clear and enduring as it has been for the past 228 years of our nation's history: to fight and win our nation's wars. Today's strategic setting for this timeless Army mission is more complex, widespread and challenging, both geographically and in terms of operational commitments, than at any time since the global conflict of World War II.

The Army must be able to adapt to an ever-shifting international landscape replete with new challenges to our nation's security while remaining ready to meet the more traditional threats across the full spectrum of conflict. Terrorism, weapons of mass destruction, and the spread of missile technology are all existing dangers that the Army is addressing as part of its major role in the conduct of the Global War on Terror. The Army is maintaining and sustaining multiple mission sets in today's world: maintaining a forward presence in strategic regions to assure allies and to deter potential enemies; defense of the homeland in an expanded homeland security/defense role; keeping the peace in regions important to our national security strategy; conducting combat operations in the Global War on Terror; maintaining the training and sustainment base at home and abroad; and, with its world-class soldiers and their leaders, developing and evolving the right doctrine, training, equipment, leader development, structure and infrastructure to be successful today and tomorrow.

All of these activities, plus the need to evolve into the force of the future—the Future Force—have put stresses and strains on the Army as it exists in size, structure and resources today. Current Army leadership is challenged, as past generations have been, to both maintain current readiness and anticipate and shape the force for future readiness. There are tradeoffs that must be weighed and debated, decision paths to be selected for immediate and future needs and requirements, and, even more so today than ever before, the need for the continual development of the next generation of capabilities to develop into a joint and expeditionary Army.

Even in General George C. Marshall's time, there was never enough of two critical elements: time and money. These two parameters of the Army leadership paradigm for balancing current and future operations and plans have not changed for today's leaders.

It is difficult to strike the right balance among the competing demands on the nation's premier landpower force.

General Schoomaker's focus on keeping *The Soldier as the Centerpiece* is as correct and enduring today as it has been in the past. The Army's requirement to train and grow leaders and prepare soldiers and units for combat, as the new Army Chief of Staff characterizes it, is an enduring mandate for Army leaders from the squad to the field Army.

With the Army and all of its uniformed components engaged in the Global War on Terror for the next decade, the balancing act of these two elements of time and money is ever critical. For today, the Army must continue to transform while in contact; must conduct combat operations while relieving the stress on the force with simultaneous rebalancing and reorganizing for the joint and expeditionary force for the future; and must "reset" the force for current and future operations.

Since World War II the combat power of American arms has been rooted in several basic American strengths: quality soldiers (conscripted or volunteer); American superiority in technology and innovation (sometimes on the move on the battlefield); and the power and strength of the nation's industry and economy. It is no different today.

There always is the question of how much is enough of this combat power, however measured in both timeliness and size for the point of application—combat, prevention of combat

or post-conflict operations. What senior leaders need is the strategic flexibility to have and apply that combat power “on demand” as they see it or as they anticipate it.

The current debate on the size of the Army is a case in point. Likewise, the same can be said for the argument for size of force structure.

The size of the Army is mandated by the authorizing language of the Constitution and annually set by the Congress. At times there has been a vigorous debate as to who is correct on the issue of “size”; the debaters have traditionally been the uniformed leadership, the civilian leaders (empowered by the Constitution), and the Congress. The debate today is evident in the press, in the Fiscal Year 2005 budget hearings, and in other forums.

Adequate endstrength (size) for the active and reserve components gives the national leadership the strategic flexibility to deal with present national security conditions, to anticipate future national security requirements as defined by the national security strategy of an administration, and to provide that strategic hedge for unforeseen events.

The past several years bridging the millennium have seen this issue of the endstrength of the Army come to the fore. After a tumultuous decade of downsizing, peacekeeping and peacemaking, Operation Desert Storm and multiple other engagements, the issue of endstrength is not resolved. Endstrength does not stand alone as a principle factor for Army configuration. Other elements include budget size, national budget allocation for defense, international security factors and political leadership.

Today, for strategic flexibility, the Army needs to be larger in endstrength *if* properly resourced in its budget without having to “self finance” such an endstrength increase, as has been the case in the past. While the correct number is debatable for today’s security environment, an increase of 50,000 would afford that strategic flexibility for the Army to conduct its combat operations and transition to the Future Force without having to internally finance from the institutional army. The successes of the Army today are in part attributable to the value and values added from the institutional army that built the Army out of its dysfunctional days after Vietnam.

This USAWC Strategy Research Project—“Determining An Appropriate Force Sizing Paradigm for the U.S. Army”—provides in the current context the factors and decision elements the Army must wrestle with as it moves to the future as a more joint and expeditionary force, engaged in combat today on a global scale, while developing capabilities for its units and soldiers and leaders for tomorrow.

—The Association of the U.S. Army, Feb 04

LIST OF ILLUSTRATIONS

| | |
|-------------------------------------------------|---|
| FIGURE 1. PAST GEOSTRATEGIC ENVIRONMENT | 3 |
| FIGURE 2. PRESENT GEOSTRATEGIC ENVIRONMENT..... | 3 |
| FIGURE 3. AC/RC MIX..... | 4 |
| FIGURE 4. AC ROTATIONAL DEPLOYMENT CYCLE | 8 |

LIST OF TABLES

| | |
|------------------------------------------------------------------------------------------------------|----|
| TABLE 1. EFFECTS OF VARIOUS DEPLOYMENT TEMPOS ON ROTATION RATIOS FOR AC UNITS..... | 10 |
| TABLE 2. EFFECTS OF VARIOUS DEPLOYMENT TEMPOS ON ROTATION RATIOS FOR RESERVE COMPONENT UNITS..... | 11 |
| TABLE 3. ROTATION RATIOS | 12 |
| TABLE 4. NUMBER OF COMBAT DIVISIONS | 13 |

DETERMINING AN APPROPRIATE FORCE SIZING PARADIGM FOR THE U.S. ARMY

“You may fly over a land forever; you may bomb it, atomize it, pulverize it and wipe it clean of life—but if you desire to defend it, protect it, and keep it for civilization, you must do this on the ground, the way the Roman Legions did, by putting your young men into the mud.”

—T.R. Fehrenbach

As Robert S. McNamara said on April 20, 1963, “You cannot make decisions simply by asking yourself whether something might be nice to have. You have to make a judgment on how much is enough?” This statement is still relevant today as the U.S. (U.S.) grapples with how much force structure is enough for the U.S. Army to wage the Global War on Terror while simultaneously providing for Homeland Security. As the war in Afghanistan and Iraq are showing, this war on terrorism requires putting our young men and women into the mud. Technology is a combat multiplier, but it is our men and women who will in the end win the war.

Not too surprising to many is that more soldiers are needed in post-combat operations/Phase IV to ensure the peace is won. Prime examples of this today are the post-combat operations ongoing in Afghanistan and Iraq. The predominant force on the ground in these operations is an Army soldier. This is true because in fact only the Army can conduct the type operations on a sustained basis that are now ongoing in Afghanistan and Iraq...90% of the forces in those areas of operations are Army forces. The problem in question is, does the Army have enough end-strength and force structure to accomplish all it is being called to do?

U.S. Defense Secretary Donald Rumsfeld believes the U.S. has adequate forces and the current stress on the force is only a spike but many in and out of uniform disagree. Texas Republican Senator Kay Bailey Hutchison, leader of the Senate Appropriations subcommittee on military construction stated, “we need more troops or fewer missions.” She posed the question, “Do we have enough Army and Marine active-duty members for the post-September 11 era of national security? My view is that we do not.”¹ Senator Hutchison is right, to win the Global War on Terror, the U.S. must add force structure and end-strength to the Army.

The Association of the U.S. Army (AUSA) and former Chief of Staff of the Army (CSA), General (Retired) Gordon R. Sullivan, believes and has stated in several fora that the Active Army is too small to continue the current pace of operations. “Since 1989, the Army’s military end-strength has been cut by 34 percent and civilian strength by 45 percent while undergoing a 300 percent increase in mission rate.”² To address this problem, “AUSA is calling for an increase of 50,000 soldiers in active duty end-strength for the active Army and increased spending for the Army National Guard and Army Reserve to recapitalize equipment, modernize

the force and increase full-time manning.”³ General (Retired) Frederick J. Kroesen, former Vice Chief of Staff of the Army, had this to say about the current active Army end-strength, “On September 11, Army requirements grew significantly but the Army did not. The mobilization of reserve components does not change the size of the Army.”⁴ AUSA is also calling for an increase in defense spending from the current 3 percent of Gross Domestic Product to 4 percent and an increase from 25 percent to 28 percent of the Army’s share of the defense budget.

THE PEACE DIVIDEND

Too many experts define the growing deployment tempo (DEPTempo) in terms of the last couple of years but in actuality, it began in 1989 while the U.S. was looking for a peace dividend in the aftermath of the fall of the Soviet Union. The investment to gain a peace dividend came at the expense of the U.S. Armed Services. For its part, the Army drew down from 28 divisions (18 active/10 national guard) to 18 divisions (10 active/8 national guard). “Since 1989, the average frequency of Army contingency deployments has increased from one every four years to one every 14 weeks. Some of these deployments have developed into enduring missions such as Bosnia and Kosovo, etc...”⁵ General (Retired) Frederick J. Kroesen’s view concerning the exponential increase in deployments is, “Given that these deployments have become the norm in the last few years it is apparent that a prima facie case for end-strength of 540,000 already exists.”⁶ He further states that, “Today’s requirements are being sustained by the resources of five divisions and that if we apply the standard ‘**one deployed, one training to go and one recovering**’, we ought to have 15 divisions in the active force.”⁷ Figures 1 and 2 below depicts the magnitude of deployments since the 1989 draw down to the current 10 division active Army and the U.S. effort to reap a peace dividend.

Past Geostrategic Environment

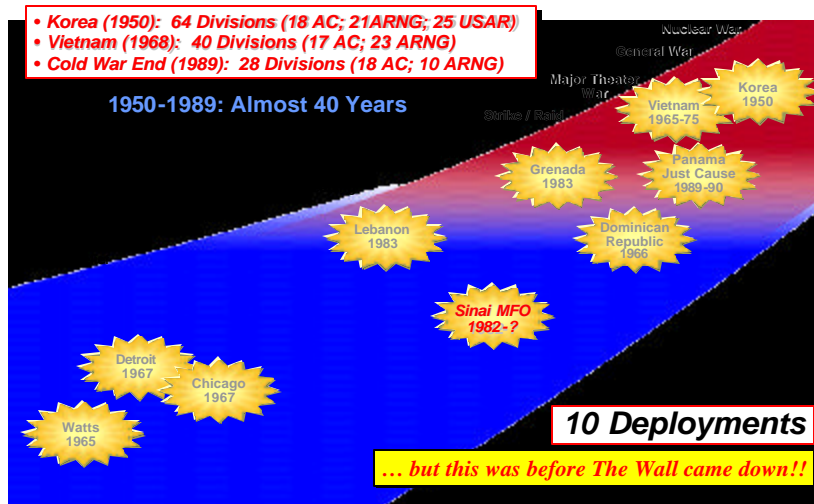


FIGURE 1. PAST GEOSTRATEGIC ENVIRONMENT⁸

Present Geostrategic Environment

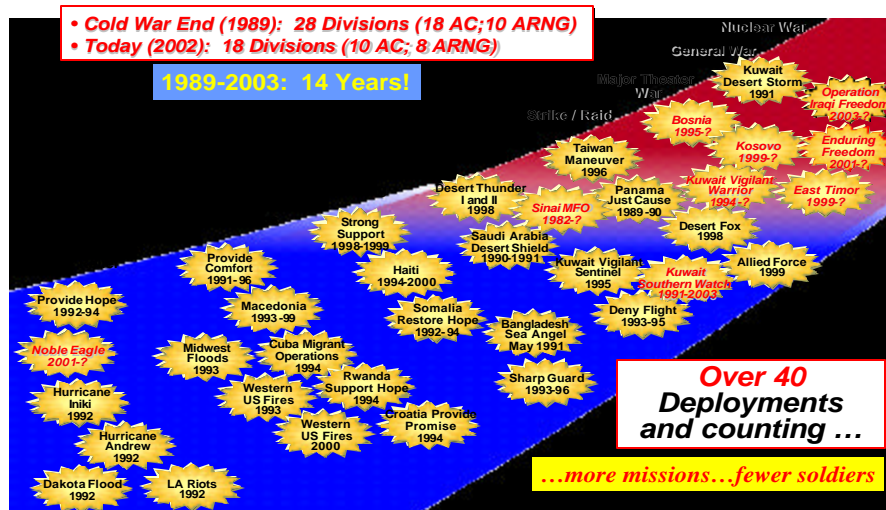


FIGURE 2. PRESENT GEOSTRATEGIC ENVIRONMENT⁹

The Army's end-strength authorization is 482,400 but today, in order to meet security requirements around the globe, there are approximately 635,000 (combined active, guard, and reserve) soldiers on active duty. In testimony before he retired, General Jack Keane, then the Vice Chief of Staff of the Army, briefed the Secretary of Defense, that 368,900 (about 50% of the active Army) soldiers were overseas in 120 countries:

- AC (AC) 485,000 on rolls 232,759 Deployed
- Reserve Component (RC) 206,000 on rolls 61,590 Deployed
- National Guard (NG) 352,000 on rolls 74,551 Deployed
- Total 1,043,000 368,900 Deployed

At his confirmation hearing before Congress, the new CSA, GEN Peter J. Schoomaker, testified that 24 of the Army's 33 active brigades are deployed overseas and 15 of 45 (33%) enhanced Separate Brigade battalions were deployed overseas in FY03. Given the fact that the Army had to mobilize 42% of the Army Reserve and 60% of the National Guard since September 2001, Congressional leaders expressed concern about the excessive use of the RC and raised valid questions about the adequacy of the current AC-RC. As you can see in figure 3 below, there is good reason for congressional concern regarding the AC-RC mix.

Operating Forces AC – RC Mix

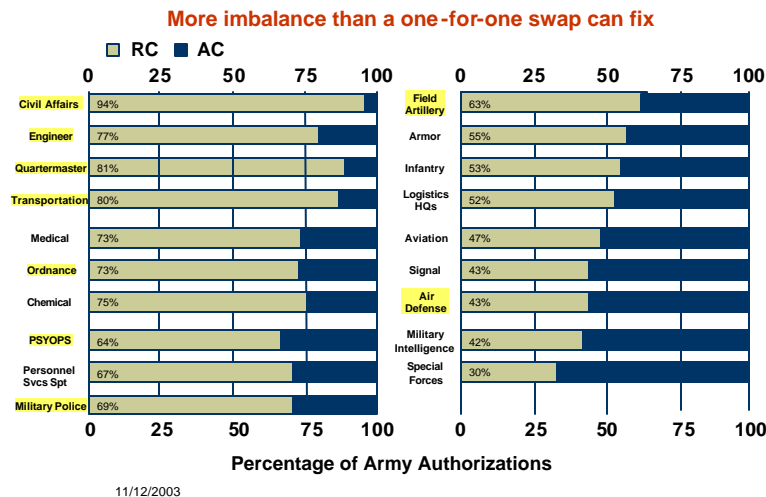


FIGURE 3. AC/RC MIX¹⁰

THE 1-4-2-1 STRATEGY

Exactly how much is enough? More importantly, what is the best methodology to use to determine how much is enough? The U.S. has struggled with these two questions since the end of the Cold War.¹¹ In the National Security Strategy dated September 2002, President Bush states “it is time to reaffirm the essential role of American military strength. We must build and maintain our defenses beyond challenge. Our military’s highest priority is to defend the U.S.. To do so effectively, our military must: assure our allies and friends; dissuade future military competition; deter threats against U.S. interests, allies, and friends; and decisively defeat any adversary if deterrence fails.”¹² He goes on to further state that **“the goal is to provide the President with a range of military options to discourage aggression or any form of coercion against the U.S., our allies, and our friends.”**¹³

The Secretary of Defense stated that the central objective of the Quadrennial Defense Review (QDR) was to move from a threat-based assessment to one that is capabilities-based. The new force-planning model used in this past QDR is a paradigm shift that focus’s on how the enemy fights rather than who the U.S. fights or where the next war might be fought. In addition to identifying the capabilities to fight and win a large conventional war, the U.S. must identify the capabilities required to deter and defeat enemies who will use surprise, deception, and asymmetric warfare to win.¹⁴ In his 2001 Defense Planning Guidance, the Secretary of Defense lays out a new force-sizing construct. This new planning focus commonly referred to as the 1-4-2-1 strategy clearly “places new emphasis on the unique operational demands associated with the defense of the U.S.. It restores the (1) ***defense of the U.S. as the Department’s primary mission***. It changes the 1990’s paradigm of winning two major theater wars to (4) ***detering forward in four critical regions***, (2) ***swiftly defeating the efforts of two adversaries*** while preserving the capability to (1) ***win decisively in one***.¹⁵

FORCE-PLANNING METHODOLOGY

When it comes to answering this question how much is enough to build our “defenses beyond challenge,” force planners have three very difficult tasks to accomplish. First they must **determine how much is enough** to accomplish the missions required with minimal acceptable risk. Secondly, they must **determine where and how to posture the forces** to accomplish the missions. Thirdly, force planners have to **gain the support of congress** and the public for the first two tasks.¹⁶

There is general agreement that two methodologies exist to determine force structure requirements. One is “threat-based” and the other is “capabilities-based.” The simpler of these

to define and apply is the **threat-based** planning methodology. Using this planning methodology, war planners have a clearly defined or agreed-upon threat. Given the threat, any number and type of scenarios, and a risk analysis, one can simply apply the appropriate amount of force to defeat the threat or deter any hostile action. Most analysts agree that during the Cold War determining force structure and end-strength was fairly straight-forward.¹⁷ The Soviet Union was the clearly defined threat and the U.S. simply applied enough resources to assure victory.

The other planning methodology is a **capabilities-based** approach. The theme of this approach to planning force structure is uncertainty. As described in the QDR Report, dated September 30, 2001, it is the “concept that reflects the fact that the U.S. cannot know with confidence what nation, combination of nations, or non-state actor will pose threats to vital U.S. interests or those of U.S. allies and friends decades from now.”¹⁸ To put it another way, “it is planning under uncertainty to provide capabilities suitable for a wide range of modern-day challenges and circumstances.”¹⁹

ARMY CAPABILITIES

What does this new defense strategy mean for the U.S. Army? What capabilities must the Army donate to the joint force to help achieve the 1-4-2-1 strategy? To achieve the 1-4-2-1 strategy, the Army must simultaneously provide forces for Homeland Defense; Deter Forward in four critical regions; swiftly defeat the efforts (SDTE) of two adversaries while preserving the capability to win decisively in one with overwhelming force, and meet commitments to the enduring operations/small scale contingencies. It must provide special mission forces, provide for a strategic reserve, ensure sufficiency of force structure depth to provide a rotation base for units participating in enduring operations, transform the force, provide Army support to other services and executive agency responsibilities and finally execute title 10 functions of organizing, training and equipping the force.²⁰ However, the challenge in achieving this new strategy with an Army already severely strained by current commitments is that the strategy does not account for stability operations following an operation such as Iraqi Freedom. Nor does it adequately account for the sustained requirement for SDTE sized force packages.

According to General Peter J. Schoomaker, the Army’s has two core competencies; (1) train and equip soldiers and grow leaders, and (2) provide relevant and ready land power capability to the Combatant Commander as part of the Joint Team. He also approved the six enduring Army capabilities to achieve this new strategy as a member of the joint team. These capabilities are derived from strategy requirements, operational experience, strategies for

employing military forces and the operational requirements of the combatant commanders.²¹ These are the capabilities that the U.S. Army must provide to the Joint Force effort to achieve the National Security Strategy.

- **Shape the Security Environment**
- **Prompt Response**
- **Mobilize the Army**
- **Forcible Entry Operations**
- **Sustain Land Dominance**
- **Support Civil Authorities**

ARMY ANALYSIS

In an effort to improve the Army's posture to meet the new strategy with the required capabilities, General Peter J. Schoomaker recently unveiled his vision for the Army with one key objective being to increase the number of combat brigades in the AC from 33 to 48 and in the reserve component from 15 to 22. A 5:1 rotation ratio for the AC and a 10:1 rotation ratio for the reserve component determined the need to increase brigade numbers. These new brigades will train and organize as Brigade Combat Teams (BCTs), be modular and expeditionary. In other words, they will be able to "unplug" from one division and "plug" into another division or rapidly enter into a theater of war from home station and quickly begin combat operations. The term brigade combat team is important because it means that all combat, combat support and combat service support is task organized under the command and control of the maneuver Brigade Commander. This can easily be achieved now because most, if not all, brigades in the Army today train and fight as a BCT.

Increasing the total number of maneuver brigades will enable the Army to establish and sustain a rotation schedule to and from the combat zone so that units getting ready to rotate in to the fight have time to train, conduct after action review (AARs), retrain, refit, rest, and deploy. "Unit rotation is the practice of moving an entire unit to a theater, maintaining it in place (generally for 6 to 12 months), and then moving the entire unit home, while replacing it with another unit. The effect is that only a fraction of the available units will actually be in the theater at any given time, with other units in various phases of a recovery/train/prepare/deploy cycle."²² The rule of 5 for the AC as it is described below will ensure that adequate time is afforded to meet the national security requirements without short cutting the training principles that made the Army the premier military power in the world today. The rule of 5 is based on a 30-month timeline. For example, for every brigade combat team committed to the fight, 4 other brigade

combat teams are in some stage of getting ready to deploy or undergoing transformation. During the first six months a BCT conducts training, preparation, deploys to the area of operations, and executes a relief in place and then a transfer of authority with another BCT in the combat zone. As can be seen, this ties down two BCTs. The BCT executes a six month operation either combat or stability operation while the one that it relieved in place rotates back home to begin the 30 month process of reintegration, retraining, and preparation for the next rotation, the next small scale contingency, or major theater war. The BCT then is relieved by another BCT and starts another six-month phase to redeploy, recover, and reintegration at the home station. This period is crucial to maintaining combat readiness. During this six-month timeframe, the soldiers take two to three weeks of leave to reunite with family, then receive equipment from the deployment and begin the long process to maintain/refit that equipment. The final phase is a 12-month period focused on training, new equipment fielding, and any required training that goes along with fielding any new piece of equipment. This training period is a building block approach starting at the Individual level, team/crew level, and at all levels of leadership. The leadership then pulls it all together into a collective level training events and exercises. The culmination of this last phase is an exercise at one of the combat training centers to validate the unit for deployment. Figure 4 below perhaps illustrates the concept more clearly.

AC Rotational Deployment Cycle

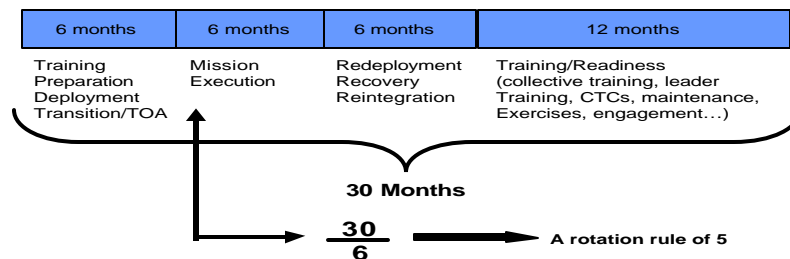


FIGURE 4. AC ROTATIONAL DEPLOYMENT CYCLE²³

In the case of the RC, the rule of 10 means that a reserve unit deploys for 6 months out of 60 months or not more than once every 5 years and will better facilitate synchronization of

active and reserve rotations. This policy will lead to a sustainable force that provides soldiers and families with stability and predictability.

CONGRESSIONAL ANALYSIS

Congressional leaders are concerned that if we continue to use the RC in the fashion we have to date, it is likely to affect their recruiting to the point that retention will quickly wane. In September 2003, in response to a request by the Honorable Robert C. Byrd, Ranking Member of the Senate Appropriations Committee, the Congressional Budget Office (CBO) conducted an analysis of the ability of the U.S. military to sustain the occupation of Iraq. Their analysis shows that of the 180,000 U.S. military personnel deployed to the Iraqi theater of operations, including Kuwait, over 165,000 of them are Army soldiers, including the equivalent of about 5 divisions' worth of combat forces.²⁴ "The base case in CBO's analysis assumed that both the Army and the Marine Corps would continue to maintain all of their current commitments during the occupation of Iraq. Those commitments, which now employ 15 combat brigades consist of :

- Maintaining 2 active Army Brigade Combat Teams (BCTs) in Korea;
- Maintaining 4 & 1/3 active Army BCTs as rapid-reaction forces;
- Deploying 2 active Army BCTs to Afghanistan;
- Deploying 1 Army National Guard BCT to Bosnia;
- Deploying 1 Army National Guard BCT to Kosovo;
- Deploying 1/3 of an Army National Guard BCT to the Sinai Peninsula;
- Converting 2 Army BCTs into Stryker BCTs;
- Providing 4 Marine Expeditionary Units (MEUs) for amphibious ready groups;
- Maintaining 1 Marine regiment in Okinawa."²⁵

The President of the U.S. and several other senior administration officials have stated that the Global War on Terrorism is a long war that we must win. Assuming this is correct, one must also assume that the DEPTempo for all Army components will increase to sustain the current efforts and future U.S. efforts to attack other terrorist base camps around the globe.

The conclusions of CBO's analysis was similar to the Army's analysis. "The CBO estimated a range of sustainable rotation ratios for U.S. military commitments by considering how different rates of deployment would effect personnel assigned to deployable units...and that the duration and frequency of a particular units rotation would be limited—in part to ensure that soldiers in that unit did not suffer from unduly high levels of family separation, time away from home, or degradation of needed skills because of a lack of training opportunities. **CBO's analysis indicates that rotation ratios of between 3.2:1 and 4:1 span the range expected**

to be feasible over the long term for AC units and 7.5:1 and 9:1 for reserve components.²⁶ However CBO's analysis goes on to say that of the 480,000 authorized soldiers on active duty, only 300,000 were considered deployable. Of the 480,000 about 110,000 personnel are assigned to other very important duties such as recruiting, instructing, and headquarters staff positions. Another 68,000 Army personnel are not available to deploy because they are in training, in school, in transit between assignments or are sick/hospitalized. The remaining 300,000 are in the combat units that are conducting operations overseas or are at home supporting homeland security tasks.²⁷ At first glance, the easy answer is put all soldiers into units that can deploy which in turn would lower the time per soldier spent away from home, but it is not that easy. Soldiers must continue to receive formal military education in the Training and Doctrine Command schools, serve in higher staff positions, and serve as Army recruiters. CBO analysis determined that if the need for both individual and collective training, preparation and recovery limited the average amount of time spent deployed to operations to 90 days per year (or 42 percent of the time when training and exercises are included), a total of four soldiers or Marines in deployable units would be needed to support each service member deployed overseas. CBO assumed in their analysis that units needed to be 100 percent efficient when deployed but also conducted analysis at an 80 percent efficiency level. On the basis of their analysis, "the Army or Marine Corps would need a deployable rotation base of active-component forces that ranged from slightly more than one to five times the size of the forces maintained overseas."²⁸

| Deployment Tempo | At 80 Percent Efficiency | At 100 percent Efficiency |
|----------------------------------------------------------------|--------------------------|---------------------------|
| 335 Days per Year (For all Activities) | 1.7:1 | 1.3:1 |
| Congressional Threshold (200 days per year for all activities) | 3.2:1 | 2.7:1 |
| 90 Days per Year deployed to Operations | 5.1:1 | 4.0:1 |

TABLE 1. EFFECTS OF VARIOUS DEPLOYMENT TEMPOS ON ROTATION RATIOS FOR AC UNITS²⁹

Again, the result of the CBO's analysis for RC forces was similar to the Army's analysis. Assuming three months to alert, train, and prepare a reserve unit for deployment and a six-month rotation, it would require a total mobilization time of nine months. Limiting usage to 17

percent would mean a nine-month mobilization every 4.5 years and a deployment ration of 9:1. By increasing the length of the deployment to a 12-month rotation with a 3-month preparation time they would deploy once every 7.5 years, changing the rotation ratio to 7.5:1.³⁰

| Length of deployment | Length of mobilization | Deployment Interval | Rotation Ratio |
|----------------------|------------------------|---------------------|----------------|
| 6 months | 9 months | 4.5 years | 9.0:1 |
| 12 months | 15 months | 7.5 years | 7.5:1 |

TABLE 2. EFFECTS OF VARIOUS DEPLOYMENT TEMPOS ON ROTATION RATIOS FOR RESERVE COMPONENT UNITS³¹

IMPORTANCE OF DEPLOYMENT/TRAINING CYCLES

The U.S. Army that took to field in 1990 to throw the Iraqi Army out of Kuwait in Operation Desert Storm, then won Operation Enduring Freedom and Operation Iraqi Freedom, was born in the aftermath of Vietnam. The principles of training and training methodology developed in the early 1980s were the key to making the U.S. Army the most powerful Army in the world. The talk of change and transformation should not degrade nor forget those training principles and training methodology. The foundation of sound training methodology, outstanding people, and superior technology are what makes the U.S. Army the best in the world. Soldiers are still the heart of the Army as they have been for over 228 years. They are the foundation and centerpiece of our formations and the key ingredient of the Army's unmatched combat power. Determining the correct rotation rule is critical to answering the question of "how much is enough" and to ensuring Army training and readiness.

An analogy that best shows the importance of this is a sports team. In football, there is an off-season to allow athletes and coaches to rest, recuperate, and train. Then there is a pre-season to begin collective training and practice with some practice games. Finally, there is the regular season game schedule. In the military, the ultimate price is life or death but the simple analogy of an off-season, a pre-season, and a regular season apply as military leaders train soldier and leaders and prepare units for combat is the key principle behind the Army's deployment/training cycle system described earlier in this paper.

THE NEW GEOPOLITICAL LANDSCAPE

The decision to go to a ten division Army may have been a good idea at the time but the world landscape has changed immensely. The geopolitical landscape that has transformed over the last decade does not support the 3:1 rotation rule. Before the global war on terror (GWOT), the Army averaged 10 combat brigades committed around the world but now with the

GWOT that number is hovering around 20 and was even as high as 24. Although the Secretary of Defense stated several times that having 24 brigades committed is only a spike, on other occasions he said the GWOT is a long war with no end in sight. Of course the question then is, what is long term? In terms of years, it will most likely exceed World War II, Korea, and perhaps even Vietnam. Some have said it will require the same long-term commitment as given to win the Cold War. Using the rotation ratios described above and a range of 10, 15 and 24 brigades committed, we can get an idea on how much is enough in a long term GWOT.

Table 3 below shows the number of brigades needed given 10, 15, or 24 brigades committed at any one time using rotation ratios of 3, 4, and 5:1. Remember that **according to CBO's analysis, "rotation ratios of between 3.2:1 and 4:1 span the range expected to be feasible over the long term for active-component units"**³² while Army analysis used the rule of 5:1.

| Committed Bdes Rotation ratio | If 10 brigades are committed | If 15 brigades are committed | If 24 brigades are committed |
|----------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 3:1 | 30 | 45 | 72 |
| 4:1 | 40 | 60 | 96 |
| 5:1 | 50 | 75 | 120 |

TABLE 3. ROTATION RATIOS

It is easy to see in table 3 that if the norm is 10 and using a 4:1 rotation ratio, the minimum requirement is 40 duty combat brigades and it is 50 brigades using a 5:1 ratio. This analysis validates the CSA's objective of increasing the active Army combat brigades from 33 to 48.

Now lets show how many combat divisions are required using the same rotation ratios. Table 4 below shows the number of divisions required given 10, 15, or 24 brigades committed at any one time using rotation ratios of 3, 4, and 5:1. The total number of divisions shown is based on 3 brigades per division and 4 brigades per division. For example, if 10 brigades are committed and using a 3:1 rotation ratio then 30 brigades are required. The number of divisions required is a function of how many brigades are in the division. Using the requirement of 30 brigades with 3 brigades in each division than obviously 10 brigades are required. If 4 brigades are in a division than only 8 brigades are required.

| | If 10 brigades committed | | If 15 brigades committed | | If 24 brigades committed | |
|--------------------|--------------------------|------------------------|--------------------------|------------------------|--------------------------|------------------------|
| 3:1 ROTATION RATIO | 30 brigades | | 45 brigades | | 72 brigades | |
| | # of DIVISIONS required | | # of DIVISIONS required | | # of DIVISIONS required | |
| | 10 IF 3 BDES/DIV | 8 IF 4 BDES/DIV | 15 IF 3 BDES/DIV | 11 IF 4 BDES/DIV | 24 IF 3 BDES/DIV | 18 IF 4 BDES/DIV |
| 4:1 ROTATION RATIO | 40 brigades | | 60 brigades | | 96 brigades | |
| | # of DIVISIONS required | | # of DIVISIONS required | | # of DIVISIONS required | |
| | 13 IF 3 BDES/DIV | 10 IF 4 BDES/DIV | 20 IF 3 BDES/DIV | 15 IF 4 BDES/DIV | 32 IF 3 BDES/DIV | 24 IF 4 BDES/DIV |
| 5:1 ROTATION RATIO | 50 brigades | | 75 brigades | | 120 brigades | |
| | # of DIVISIONS required | | # of DIVISIONS required | | # of DIVISIONS required | |
| | 17 IF 3 BDES/DIV | 12 IF 4 BDES/DIV | 25 IF 3 BDES/DIV | 19 IF 4 BDES/DIV | 40 IF 3 BDES/DIV | 30 IF 4 BDES/DIV |

TABLE 4. NUMBER OF COMBAT DIVISIONS

RECOMMENDATIONS

“Finally, the loss of life and damage to our economy from the attack of September 11, 2001 should give us a new perspective on the question of what this country can afford for its defense. It would be reckless to press our luck with false economies or gamble with our children’s future. This nation can afford to spend what is needed to deter the adversaries of tomorrow and to underpin our prosperity. Those costs do not begin to compare with the cost in human lives and resources if we fail to do so.... Our commitment to the nation will be unwavering and our purpose clear: to provide for the safety and well-being of all Americans and to honor America’s commitments worldwide. As in generations before, the skill of our armed forces, their devotion to duty, and their willingness to sacrifice are at the core of our nation’s strength. We must provide them with the resources and support that they need to safeguard peace and security not only for our generation but for generations to come.”³³

HOW MUCH IS ENOUGH

To keep our Army trained and ready to fight and win our nations wars and ensure a capability to respond to a myriad of smaller-scale contingencies in today’s geo-political

environment, more combat brigades and divisions are needed. The Army needs at least 50 AC combat brigades and 12 AC combat divisions. This number is based on an average of 15-20 brigades committed on a routine basis. Twenty brigades committed may be only a spike but ten is no longer the norm. Additionally, the Army should increase active duty end-strength to fill these new units as well as the low density/high demand military occupation specialties. The CSA's guidance to increase the number of active and reserve component combat brigades will go a long way towards ensuring the Army's capability to maintain current day-to-day missions at an acceptable DEPTempo while sustaining overall combat readiness. That said, the Army should also activate two additional combat divisions bringing the total to 12 active duty combat divisions. Each division should be task organized with four active duty component BCTs and one National Guard Enhanced Brigade Combat Team (EBCT). Twelve Army divisions with 4 BCTs each accounts for the 48 total BCTs directed by the CSA and provides for the appropriate level of span of command and control for the BCTs Adequate span of command and control defined as three to five maneuver units per headquarters command. Proper span of command and control is more important today than ever before because of the exponential increase and rapid flow of information caused by modern computer technology. The division command and control structure will also greatly facilitate command and control over the vast distances and the speed of operations such as those exhibited during Operation Iraqi Freedom. More importantly, it ensures enough AC force structure is readily available to deploy and fight and win the nations wars. With minimal force structure adjustments and end-strength additions, the Army can do this with minimal impact while at the same time decrease DEPTempo and in the long term sustain overall readiness.

WHERE AND HOW TO POSTURE THE FORCES

The Army should reactivate the two integrated divisions, the 7th Infantry Division at Ft. Carson, Colorado and the 24th Infantry Division at Ft. Riley, Kansas as active duty, deployable combat divisions. These two divisions trained and organized as motorized infantry divisions, using the new Stryker brigade combat teams as the base maneuver force, will provide the added capability of two medium divisions. Using the capabilities-based approach in today's geo-strategic environment, two Stryker Divisions will balance the Army's capabilities and improve its ability to respond to the threat environment.

The two division headquarters already exist today and are on existing active Army installations. The benefit of putting the Stryker Brigades under one flag on the same installation is that it is more economically efficient to have like units on the same installation where the

division commander can train, prioritize training resources and provide the necessary collective training focus. Enhanced Separate Brigades already exist today and realigning them as described above reinforces the 1999 vision stated by the former CSA, General (Retired) Eric K. Shinseki that, "We are the Army – totally integrated into oneness of purpose-no longer the Total Army, no longer the One Army. We are The Army, and we will march into the 21st Century as The Army. We acknowledge the components and their varying organizational strengths. We will work to structure the Army accordingly."³⁴ When a division is deployed, the EBCT deploys as part of the division deployment package whether for major theater combat or a small-scale contingency. If a rotation plan calls for BCT sized forces, these National Guard EBCTs should be part of the division's rotation plan. This will allow for more advanced notice for the National Guard Brigades and ease the strain on the AC force.

GAINING CONGRESSIONAL SUPPORT

It will not be hard to convince congress to increase the Army because most lawmakers from both parties believe the military is stretched too thin to fight and win the war on terrorism. According to William Matthews of Defense News, "with 24 of 33 active-duty Army combat brigades deployed during 2003, a stop-loss order barring troops from leaving active duty while deployed, and tour extensions for reserve personnel that keep them on active duty in Iraq for a year or more, lawmakers say, the Army especially is stretched too thin."³⁵ In fact, they tried to increase the size of the Army in 2003 but failed. In November, more than 2-dozen House Democrats and 128 House members from both parties, including 54 of the 61 members of the House Armed Services Committee sent the President a letter urging him to increase the size of the military, specifically that the budget should include a buildup to two more (Army) combat divisions. To quote Harald Stavenas, spokesman for the House Armed Services Committee, "I can't see how it won't be an issue this year. Every member of the committee is on record as saying they want an end-strength increase."³⁶

Representative Ellen Tauscher, D-California introduced a bill in December to increase the size of the Army, Marines, and Air Force by approximately 8% over five years. The legislation would add 40,000 troops to the Army, bringing it to 522,400, while the Air Force would grow by 28,700 to 388,000 and the Marines by 15,000 to 190,000. "If the administration is going to deploy thousands of troops across the globe, the size of our military needs to reflect that," says Representative Tauscher.³⁷

CONCLUSION

It is very likely that DEPTempo for all Army components will increase in an effort to sustain the current commitments and at the same time attack other terrorist targets around the globe. The average number of BCTs deployed in support of the GWOT will continue to average 15-20 at any given time for the next several years. This requires an increase in the total number of combat brigades. With the capabilities that are inherent in the ten Army divisions today plus the addition of two Motorized Infantry Divisions organized around the Stryker Brigades, the Army will be able to train in accordance with the training methodology that made the Army the dominant military power it is today. In this era of uncertainty organized with six heavy divisions, two medium divisions and four light divisions, of which two provide a forced entry capability, and special operation forces, the U.S. Army will be a much better capabilities-based and balanced joint partner suitable for a wide range of modern-day challenges and circumstances. A 12 division Army with the capabilities described above provides sufficient force depth and time to train for small-scale contingencies mission tasks and for major combat operations. This methodology for force planning will ensure a sustainable force that provides soldier assignment, personnel tempo predictability, and family stability.

The Secretary of Defense has stated repeatedly that the U.S. can afford to spend what it needs to ensure National Security; therefore, the U.S. must invest in more force structure and additional active Army end-strength in order to sustain readiness, meet the enduring mission requirements, and still maintain the force to win decisively a major land war. The Army must move force structure from the Reserve component to the AC to fix the imbalance felt today. General (Retired) Frederick J. Kroesen summed it up best in a recent Army Magazine Article in March 2003, "Assuring the sustainment of combat capabilities means increasing the size of the Army so that it can rotate fully prepared units if possible, individual soldiers if necessary, into the war zone. Without such long-term preparation, we will see a return to the Vietnam deterioration, and we will exchange the outstanding battlefield superiority we now enjoy for an ever-decreasing effectiveness"⁶⁸ Failure to act now could jeopardize our national security.

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ENDNOTES

¹ Thom Shanker, "Rumsfeld Seeking To Bolster Force without New G.I.'s," *New York Times*, 24 August 2003, p. 1.

² 2003 AUSA resolution to Congress.

³ Ibid

⁴ General Frederick J. Kroesen, U.S. Army Retired, *General Thoughts: Seventy Years with the Army* (Arlington, Va.: Institute of Land Warfare, AUSA, 2003), 56.

⁵ 2003 AUSA resolution to Congress.

⁶ General Frederick J. Kroesen, U.S. Army Retired, *General Thoughts: Seventy Years with the Army* (Arlington, Va.: Institute of Land Warfare, AUSA, 2003) , 57

⁷ Ibid., 58.

⁸ 101st Airborne Division (Air Assault) capabilities briefing.

⁹ Ibid.

¹⁰ Courtesy of the Office of the Army G3

¹¹ Harlan Ullman, *In Irons: US Military Might in the New Century*, (Washington, DC: National Defense University, 1995), 111: quoted John F. Troxell, "Sizing the Force for the 21st Century," in *Revising The Two MTW Force Shaping Paradigm* , ed. Steven Metz (Strategic Studies Institute, Carlisle Barracks, PA, 2001), 7.

¹² George W. Bush, *The National Security Strategy of the U.S. of America* (Washington, D.C.: The White House, September 2002), 29.

¹³ Ibid., 30.

¹⁴ Donald H. Rumsfeld, *Report of the Quadrennial Defense Review* (Washington, DC; U.S. Joint Chiefs of Staff, September 2003), IV.

¹⁵ Ibid., 17.

¹⁶ Harlan Ullman, *In Irons: US Military Might in the New Century*, (Washington, DC: National Defense University, 1995), 111: quoted in John F. Troxell, "Force-planning and U.S. Defense Policy," in *U.S. Army War College Guide to Strategy*, edited by Joseph R. Cerami and James Holcomb, Jr. (Strategic Studies Institute, Carlisle Barracks, PA, 2001), 158.

¹⁷ Ibid., 159.

¹⁸ Henry H. Shelton, *Report of the Quadrennial Defense Review* (Washington, DC; U.S. Joint Chiefs of Staff, September 2003), 13.

¹⁹ Paul K. Davis, *Analytic Architecture for Capabilities-Based Planning, Mission-System Analysis and Transformation* (Santa Monica, CA.; RAND Corp, 2003), 1.

²⁰ Jim Shumway, LTC(P), Army G3, interview by author, 25 September 2003, Pentagon, Washington, DC.

²¹ FM 3.0, Operations, page 1-4

²² Congressional Budget Office, *An Analysis of the U.S. Military's Ability to Sustain an Occupation of Iraq*, (Washington, DC, U.S. Congress, September 2003), 11.

²³ Courtesy of the Office of the Army G3

²⁴ Congressional Budget Office, *An Analysis of the U.S. Military's Ability to Sustain an Occupation of Iraq*, (Washington, DC, U.S. Congress, September, 2003), 5

²⁵ Ibid, 9

²⁶ Ibid, 11.

²⁷ Ibid, 34.

²⁸ Ibid, 38.

²⁹ Ibid, 37.

³⁰ Ibid, 30.

³¹ Ibid, 39.

³² Ibid, 11.

³³ Donald H. Rumsfeld, *Report of the Quadrennial Defense Review* (Washington, DC; U.S. Joint Chiefs of Staff, September 2003), IV.I

³⁴ General Eric K. Shinseki, quoted in Lawrence Smith, *The appropriate use of the Reserve Components in the Future* (Carlisle Barracks, PA, 2002), 9.

³⁵ William Matthews, *Is the U.S. Military Too Small?*, Defense News, Jan 12, 2004. pg 1.

³⁶ Ibid

³⁷ Tom Squitieri, *Push Is On For Larger Military*, USA Today, December 12, 2003. pg. 1.

³⁸ Frederick J. Kroesen, General, U.S. Army Retired, *General Thoughts: Seventy Years with the Army* (Arlington, Va.: Institute of Land Warfare, AUSA, 2003), 56.

BIBLIOGRAPHY

- Alsace, Juan, A., In Search of Monsters to Destroy: American Empire in the New Millennium, (Parameters, U.S. Army War College Quarterly, Vol. XXXIII, No. 3, Autumn 2003)
- Bush, George, W., National Strategy for Combating Terrorism, Office of the President, Washington, D.C February 2003
- Bush, George, W., National Strategy for Homeland Security, Office of the President, Washington, D.C., July 2002
- Bush, George, W., The National Security Strategy for The Physical Protection of Critical Infrastructures and Key Assets, Office of the President, Washington, D.C., February 2003
- Bush, George, W., The National Security Strategy of the U.S. of America, Office of the President, Washington, D.C., September 2002
- Crane, Conrad, C., Landpower and Crisis: Army Roles and Mission in Smaller-Scale contingencies during the 1990's, Monograph. Carlisle Barracks: Strategic Studies Institute, U.S. Army War College. January 2001
- Crane, Conrad, C., Facing the Hydra: Maintaining Strategic Balance While Pursuing a Global War against Terrorism, Monograph. Carlisle Barracks: Strategic Studies Institute, U.S. Army War College. May 2002
- Davis, Lynn and Shapiro, Jeremy, editors, The U.S. Army and the New National Security Strategy, RAND Corp 2003
- Davis, Paul, K., Analytic Architecture for Capabilities-Based Planning, Mission-System Analysis and Transformation, RAND Corp, National Defense Research Institute
- Hutcheson, John, Col (R) "The Army End-Strength," Speech, 16 Sep 03
- Johnsen, William, T., Force-planning Considerations for Army XXI, February 18, 1998
- Krepinevich, Andrew F., Dr., Operation Iraqi Freedom: A First-Blush Assessment, CSBA, Center for Strategic and Budgetary Assessments, Washington, DC 20036, 2003
- Kroesen, Frederick, J. General, U.S. Army Retired, General Thoughts: Seventy Years with the Army. Ed. Clayton R. Newell. Arlington, VA. Institute of Land Warfare, AUSA, 2003.
- Lykke, Arthur F., Jr., "Toward An Understanding of Military Strategy." In the U.S. Army War College Guide To Strategy, Edited by Joseph R. Cerami and James F. Holcomb, Jr., Strategic Studies Institute, U.S. Army War College, February 2001
- Loeb, Bernon, "Army Will Face Dip In Readiness, 4 Divisions Need to Regroup After Iraq" Washington Post, December 6, 2003. Pg 1.
- Matthews, William, "Is the U.S. Military Too Small?," Defense News, Jan 12, 2004. Pg 1.

- Metz, Steven, editor, *Revising the Two MTW Force Shaping Paradigm*, Strategic Studies Institute, April 2001
- Moniz, Dave. "Army Foresees Doubling Up Tours," *USA Today*, August 25, 2003, Early Bird
- Owens, Dallas, D., *AC/RC Integration: Today's Success and Transformation's Challenge*, Jr., October 2001
- Rumsfeld, Donald, H., *Quadrennial Defense Review Report*, Department of Defense (DoD), September 30, 2001
- Schmitt, Eric, "Forces Strained In Iraq Tasks, Congress Told," *The New York Times*, September 10, 2003, Early Bird
- Schrader, Esther, "Four Returning Army Divisions To Reduce Readiness," *Los Angeles Times*, December 6, 2003, pg 1.
- Shanker, Thom, "Rumsfeld Seeking to Bolster Force Without New G.I.'s," *New York Times*, August 24, 2003, pg. 1.
- Squitieri, Tom, "Push Is On For Larger Military," *USA Today*, December 12, 2003. pg. 1.
- Thompson, Mark and Duffy, Michael. "Is The Army Stretched Too Thin?," *Time*, September 1 2003, Early Bird
- Thompson, Mark, "We Do Have Adequate Forces, Defense Secretary Donald Rumsfeld speaks with TIME about his plans for getting more out of the U.S. military," *Time*, September 1, 2003
- Troxell, John, F. "Force-planning and U.S. Defense Policy." In *The U.S. Army War College Guide To Strategy*, Edited by Joseph R. Cerami and James F. Holcomb, Jr., Strategic Studies Institute, U.S. Army War College, February 2001
- U.S. Congressional Budget Office, *An Analysis of the U.S. Military's Ability to Sustain an Occupation of Iraq*, September 3, 2003